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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/937,561

09/27/2001

Atsunari Tsuda

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11/16/2004

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,561

Applicant(s)

TSUDA, ATSUNARI

Examiner

Abbas I Abdulsalam

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/30/2204.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/30/2004 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quanrud (USPN 6140983) in view of Ito (USPN 6677991) and Nishikawa et al. (USPN 6618201).

Regarding claims 1-4 and 7-9, Quanrud teaches a display matrix (12) including a plurality of display elements (14) each of which includes a pixel (16) and a display circuit (18),

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which is electrically connected to the pixel and controls the operation of pixel (16). See Fig 1. Quanrud also teaches peripheral control circuits for controlling read and write operations to the memory cells. Quanrud further teaches a three bit planes that can be stored in a variety of time modulation schemes to achieve the eight levels of grayscale in the color of a single illumination source. Furthermore, Quanrud teaches the use of two or more memory cells per pixel in a display matrix and discloses the use of the display matrix behaving like a memory that is addressable, readable and writable. See. Fig 8(B-C) and col. 19, lines 29-35. However, Quanrud does not disclose a timing detection that detects timing to drive the pixels in the peripheral region of the display panel,

Ito on the other teaches color data interpolation (14b) resulting from an input/output adjusting circuitry (14a). See Fig. 1. Ito discloses that the input/output adjusting circuitry (14a) includes a timing generation (140a) as well as a timing adjustment (140b) such that the timing generation (140a) generates in accordance with a control signal CONT output from the controller, drive signal for the CCD image sensor (1a) and various control signals for the timing adjustment (140b). See col. 4, lines 1-13.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Quanrud's display system to adapt Ito's input/output adjusting circuit (14a) which includes timing generation (140a) and timing adjustment (140b) as shown on Fig. 1. One would have been motivated in view of the suggestion in Ito that input/output adjusting circuit (14a) as configured in Fig. 1 serves the same purpose as the desired timing detection. The use of input/output adjusting circuit (14a) helps a display system designed for selective operation as taught by Ito.

While the modified Quanrud teaches timing adjustment and generation (140), Quanrud does not teach a display controller that outputs a signal to the driver at the timing detected by the timing detection device to always display during display operation the same color at pixels in the peripheral region regardless of color indicated for the pixels in the peripheral region by externally supplied signal.

Nishikawa on the other hand teaches displaying a color image and method of manufacturing in which the pixels having the same one color are formed by selectively removing part of a radiation sensitive layer. Nishikawa discloses that a color pattern layer can be formed through a process, which involves forming a radiation sensitive layer and selectively removing the radiation sensitive layer with respect to the number of colors of pixels. See col. 1, lines 28-33 and col. 1, lines 57-63.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Quanrud's display system to adapt Nishikawa's formation of pixels with one same color. One would have been motivated in view of the suggestion in Nishikawa that the formation of pixels with one same color can be applied and equivalently yields the desired "same color at pixels at peripheral regions". The use of color pattern formation helps manufacture a display device as taught by Nishikawa.

In addition, It would have been obvious to utilize the modified Quanrud's timing adjustment and generation (140) in conjunction with Nishikawa's formation of pixels with one same color for the purpose of establishing a time frame for a color display.

Regarding claim 5, Quanrud teaches pixels used in liquid crystal displays (col. 12, lines 52-55).

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Regarding claim 6, Quanrud teaches a digital representation of a pixel with respect to multiple colors. See col. 3, lines 2-5.

Regarding claim 10, Quanrud teaches the use of display matrix with a writable memory configuration. See col. 19, lines 29-35.

Regarding claim 11, Ito teaches color data are fed from the still picture processing 16 to the display (18), (col. 6, lines 52-53). Ito teaches that the SEL signal also fed to the display for signal selection (col. 3, lines 65-67).

Regarding claim 12, Ito teaches a mode selection (12) selecting a mode in which the display apparatus (10) should operate and input by the user (col. 3, lines 60-63).

Regarding claim 13, Ito teaches Color data area, with respect read out of the line memories (144C, 146C) while color data are written to the line memories (140C, 142C). See Fig. 4 and col. 8, lines 47-49.

Regarding claim 14, Ito teaches timing generation (140a) generates in accordance with a control signal CONT output from the controller, and discloses that the timing adjustment (140b) processes the input color data before display. See col. 4, lines 9-53 and Figs. 1-2.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following arts are cited for further reference

U.S. Pat. No. 5,801,794 to Lehureau et al.

U.S. Pat. NO. 6,256,079 to Matsushima

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5. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

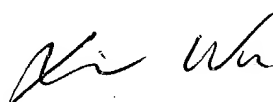
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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November 5, 2005


XIAO WU
PRIMARY EXAMINER